SOLOMONIK, Veniamin Solomonovich;MILOV, Petr Nikolayevich;
SELIVERSTOVA, A.I., red.; VORONINA, R.K., tekhn. red.

[Collection of questions and problems in mathematics; a manual for applicants to special institutions of secondary education (technical, professional, and general schools)] Sbornik voprosov i zadach po matematike; posobie dlia postupaiushchikh v srednie spetsial'nye uchebnye zavedeniia (tekhnikumy, uchilishcha, shkoly). Moskva, Vysshaia shkola," 1961. 221 p. (MIRA 15:10)
(Mathematics--Problems, exercises, etc.)

GABRIL'YAN, A. [illegible], I.D.; KLIMOVA, L.T.; MAKAROVA, L.N.; TIKHOMIROVA, G.I.; SOLOMONIK, V.A.; ABRAMOVA, L.B.; INOZEMTSEV, I.A.; NIKITINA, R.G.; SARKISYAN, I.S.; GULYAYEVA, L.A., prof., otv. red.

[Mesozoic and Cenozoic sediments of the Fergana and Issykkul' Depressions] Mezozoiskie i kainozoiskie otlozheniia Ferganskoi i Issyk-Kul'skoi vpadin. Moskva, Nauka, 1965. 259 p. (MIRA 18:4)

1. Moscow. Institut geologii i razrabotki goryuchikh iskopayemykh.

SOLOVEICHIK, Veniamin Solomonovich; MILOV, Petr Nikolayevich [deceased]; SMILYANSKOVA, A.I., red.

[Questions and problems in mathematics; textbook for persons entering secondary special educational institutions (technical schools)] Sbornik voprosov i zadach po matematike; posobie dlia postupaiushchikh v srednie spetsial'nye uchebnye zavedeniia (tekhnikumy, uchilishcha, shkoly). Izd. 2. Moskva, Vysshaia shkola, 1964. 232 p. (MIRA 17:9)

BRONFMAN, A.I., inzh.; LEVSHUNOV, R.T., kand.tekhn.nauk; SOLOMONIK, Ye.A., inzh.

Improved PNV-20, PB-35, and PNB-35 partition insulators. Vest. elektroprom. 32 no.7:79 Jl '61. (MIRA 14:10)
(Electric insulators and insulation)

SUKHORUKOV, Fedor Vasil'yevich; SIBIRYAKOV, Vasiliy Nikolayevich; SOLOMONIK, Yakov Abramovich; VOLOF'YEV, Ivan Yegorovich; VASIKOV, Ivan Nikitich; TROITSKIY, P.S., nauchn. red.

[Fire extinction equipment] Pozharnaia tekhnika. Moskva, Stroiizdat, 1965. 286 p. (MIRA 18:2)

[illegible], S.D., kand. tekhn. nauk; [illegible], Ye.A., inzh.

Mechanism of the development of a discharge along the surface of soiled insulators. Elek. sta. 35 no.12:50-53 D '64. (MIRA 18:2)

SOLOMONIK, Z.Ye.

Time for prescribing exercise therapy in ordinary radial fractures. Ortop.travm. i protez 20 no.1:78 Ja '59. (MIRA 12:3)

1. Iz Kuybyshevskogo gorodskogo vrachebno-fizkul'turnogo dispansera (glavnyy vrach - V.N. Flegontova) i kafedry gospital'noy khirurgii (zav. - prof. A.M. Aminev) Kuybyshevskogo meditsinskogo instituta.
(RADIUS--FRACTURE)

SOLOMONIK, Z.Ye.

Mechanism of the fracture of the radius in the typical site. Ortop. travm. i protez. 20 no.8:67 Ag '59. (MIRA 12:11)

1. Iz Kuybyshevskogo gorodskogo vrachebno-fizkul'turnogo dispansera (glavnyy vrach - V.N. Flegontova) i kafedry gospital'noy khirurgii (zav. - prof. A.M. Aminev) Kuybyshevskogo meditsinskogo instituta.
(RADIUS, fracture & dislocation)

[illegible] ob [illegible] s[illegible] [illegible].22, [illegible].26)

Functional classification of fractures of the radius in a typical area. Ortop., travm. i protez. 26 no.12:22-25 D '65. (MIRA 19:1)

1. Iz Rybinskogo gorodskogo vrachebno-fizkul'turnogo dispansera (glavnyy vrach V.S. [illegible]) i kafedry gospital'noy khirurgii (zav. - zasluzhennyy deyatel' nauki prof. A.M. Aminev) Kuybyshevskogo meditsinskogo instituta. Submitted January 15, 1965.

SOLOMONIKOV, A. Z.

USSR/Engineering - Steel Alloys - Welding Nov 48

"Welded Constructions From Steel With Various Plastic Properties," G. P. Mikhoylov, A. Z. Solomonikov, 1 p

"Avtogen Delo" No 11

From 1943-1945, authors designed and constructed building from steel with increased mechanical properties. Built welded constructions entirely from alloyed steels and combinations of alloyed and low-carbon steel. Carbon steel used had a yeild point of 22 kg/sq mm. Describes tests made on beams using a 300-ton press preliminary to the actual constructions. Use of alloyed steels effects a decrease in the weight of the construction due to increase in allowable stresses.

PA 56/49T42

SOLOMONIYA, O. G.

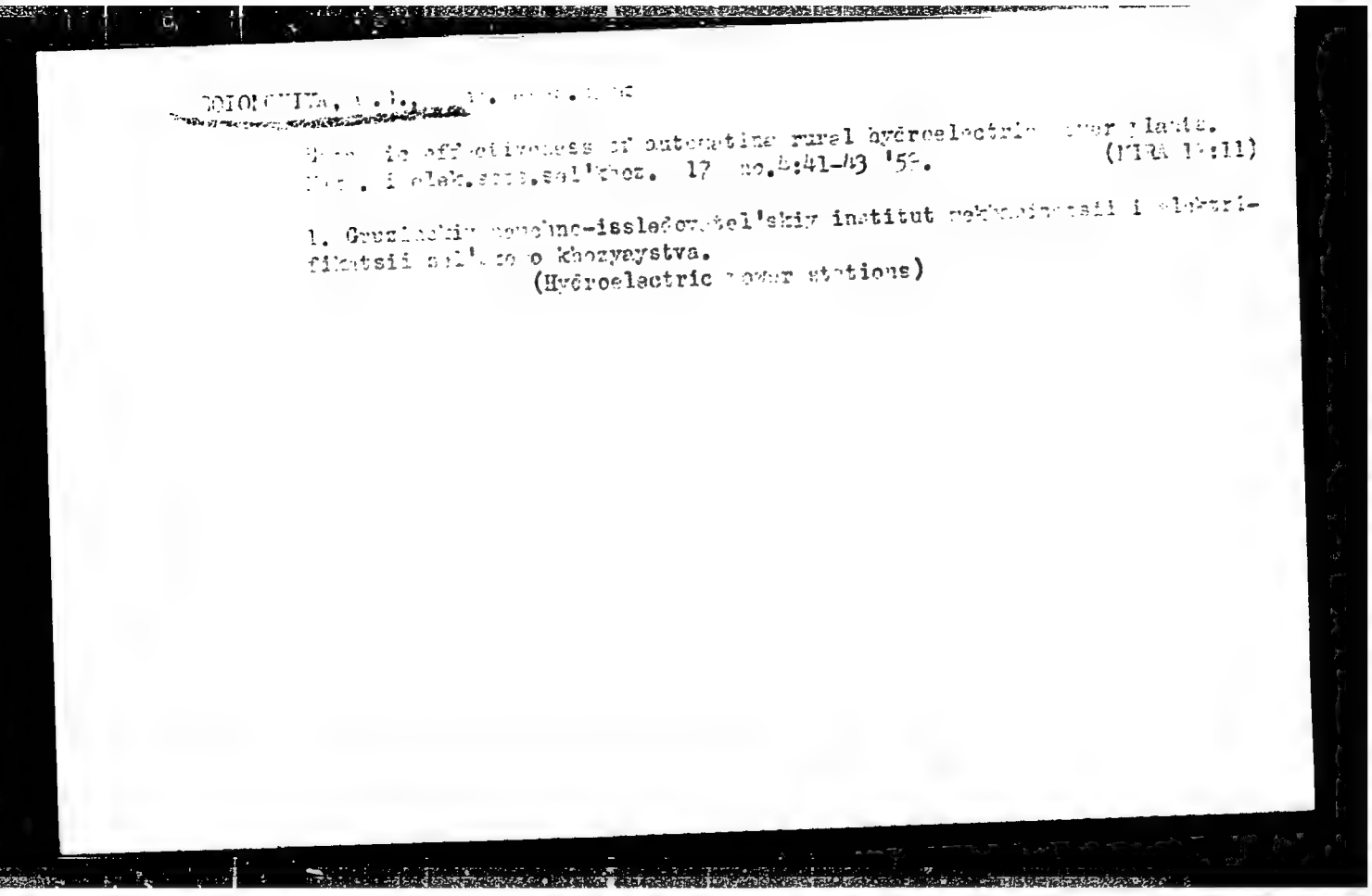
"Some Interrelated Irrigation Sprinkling and Water Power Problems." Min Water Economy Georgian SSR, Georgian Sci Res Inst of Hydraulic Engineering and Melioration (Gruz. NIIGiM), Tbilisi, 1955. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: M-972, 20 Feb 56

SOLOMONIYA, O.G.

One economic problem in sprinkler irrigation. Soob. AN Gruz. SSR 20 no.1:63-66 Ja '58. (MIRA 11:6)

1.Gruzinskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva. Predstavleno chlenom-korrespondentom AN GruzSSR. O.D. Oniashvili.
(Sprinkler irrigation)



[illegible], A. I., [illegible]

[illegible] in effectiveness of automatic rural hydroelectric power plants. Mekh. i elektr.sel'khoz. 17 no.5:41-43 '59. (MIRA 13:11)

1. Gruzinskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Hydroelectric power stations)

SOLOMONIYA, O.G.

Establishment of an optimum irrigation system using a distribution technique. Trudy Inst. energ. AN Gruz. SSR 17:177-186 '63. (MIRA 17:7)

SOLOMONIYA, C.G.; ABAISHVILI, D.S.

Some parameters of the effectiveness of sprinkler irrigation. Trudy Inst. energ. AN Gruz. SSR 17:195-200 '63. (MIRA 17:7)

SOLOMONIYA, O.G., kand. tekhn. nauk; BOLGASHVILI, N.Sh., inzh. (Tbilisi)

Use of linear programming in irrigation planning. Gidr. i mel. 16 no.6:10-20 Je '64.

SOLOMONIYA, O.A.

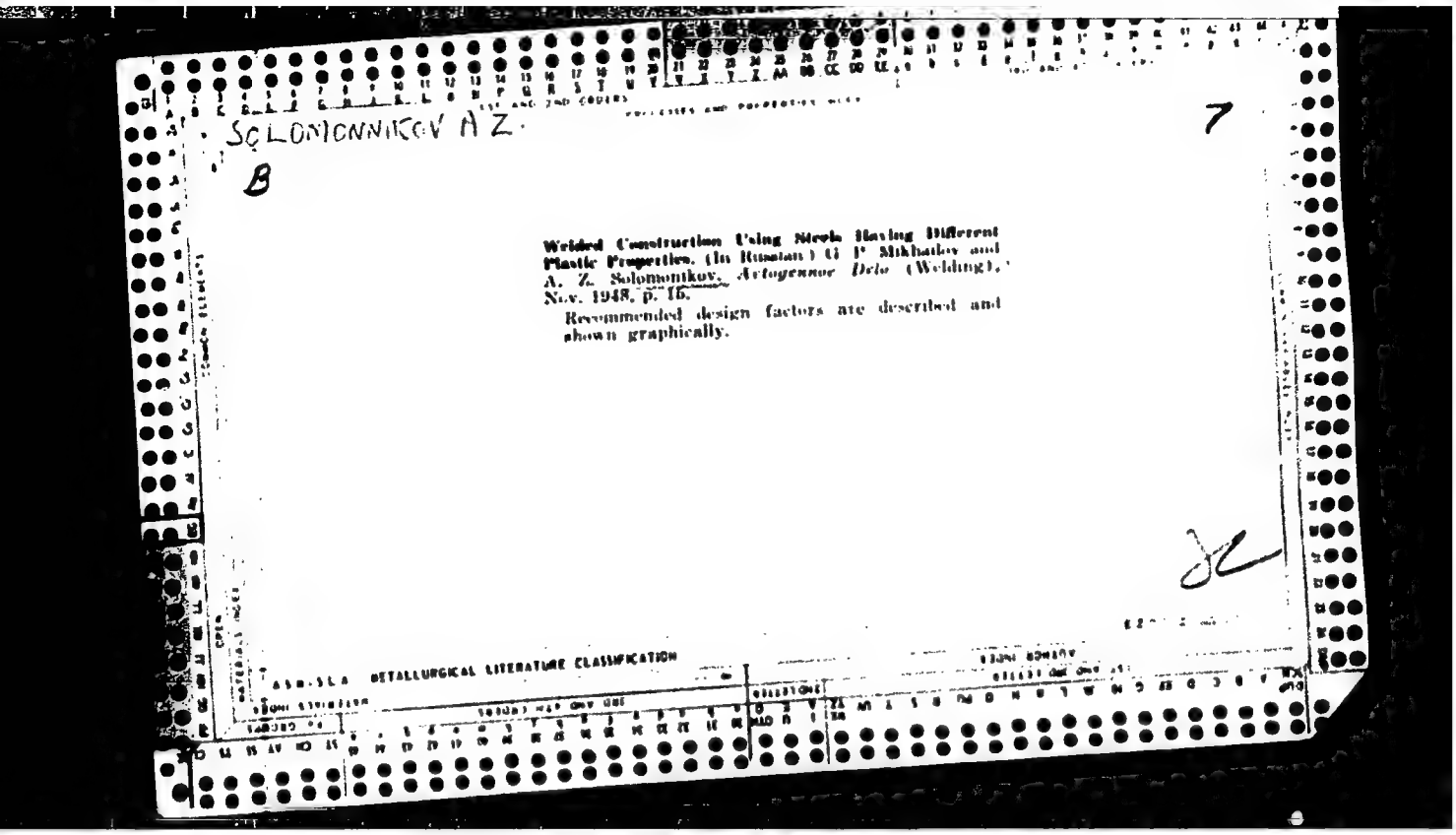
Selection of effective irrigation methods using linear programming techniques. Soob. AN Gruz. SSR 34 no.2:411-418 My '64. (MIRA 18:2)

1. Institut energetiki im. A.I. Didebulidze, Tbilisi. Submitted December 2, 1963.

SOLOMONIYA, O.G.

Determining optimum irrigation systems and rated supply status when using nonregulated sources. Soob. AN Gruz. SSR 39 no.1: 115-122 Jl '65. (MIRA 18:10)

1. Gruzinskiy institut energetiki imeni Didebulidze, Tbilisi. Submitted October 10, 1964.



SOLONOVNIKOV A Z.

B

7

Welded Construction Using Steels Having Different Plastic Properties. (In Russian.) G. P. Mikhailov and A. Z. Solomonikov. *Avtogennoe Delo* (Welding), Nov. 1948, p. 16.

Recommended design factors are described and shown graphically.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

USSR/Engineering - Welding, Testing Feb 51

"Investigation of Welded Structures Composed of Steels of Dissimilar Strength," G. P. Mikhaylov, and A. Z. Solomonnikov, L. A. Kaplan, Engineers

"Avtogen Delo" No 2, pp 13, 14

Presents data obtained in 1949 for designing and testing constrs of combined alloy and low-carbon steels, and data previously given in article by G. P. Mikhaylov and A. Z. Solomonnikov in "Avtogen Delo" No 11, 1948. Performed calcns and checked by testing for H-beams 1.2 m long with outer leaves of flanges made of alloy steel

185T21

USSR/Engineering - Welding, Testing (Contd) Feb 51

having elastic limit of 3,500 and 4,500 kg/sq cm, when inner leaves were made of low-carbon steel with limit of 2,200 kg/sq cm.

185T21

SOLOMONIYA, O.G.

Use of linear programming techniques in drainage and irrigation projects. Trudy Inst.energ.AN Gruz.SSR 16:47-54 '62.
(MIRA 16:4)

(Reclamation of land)

ZADORNOV, N.; SOLOMONOV, A., red.; SILIN', V.[Silins,V.], tekhn. red.

[In sunny England] V solnechnoi Anglii. Riga, Latviiskoe gos. izd-vo, 1960. 105 p. (MIRA 14:12)
(Great Britain—Description and travel)

BERTSE, Vizbul [Berce, Vizbulis]; MARKOVA, S.[translator]; SOLOMOLOV, A., red.; MIRONOV, A., tekhn. red.

[Editor's office on wheels; from the history of a trip] Redaktsiia na kolesakh; iz istorii odnoi poezdki. Riga, Latviiskoe gos. izd-vo, 1962. 236 p. (MIRA 15:6)
(Siberia--Description and travel)

KARPOVSKIY, Nikolay Sergeyevich, zhurnalist (1924-); SOLOMONOV,A., red.

[In storm and in calm; from the Atlantic diary] I v shtorm i v shtil'; iz atlanticheskogo dnevnika. Riga, Latviiskoe gos. izd-vo, 1963. 128 p. (MIRA 17:4)

SOLOV'YOV, A. A.

"Concurrent Equilibration of Triangulation and Polygonometry."
Cand Tech Sci, Belorussian Polytechnic Inst imeni I.V. Stalin, 17 Dec 54.
(KB, 7 Dec 54)

Survey ofScientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

AUTHOR: Solomonov, A.A., Candidate of Technical Sciences 6-58-5-4/17

TITLE: The Joint Equalization of Triangulation and Polygoniometry by the Method of Intermediate Observations and Conditional Equations (Sovmestnoye uravnoveshivaniye triangulyatsii i poligonometrii metodom posredstvennykh nablyudeniy s uslovnymi uravneniyami)

PERIODICAL: Geodeziya i Kartografiya, 1958, Nr 5, pp. 14-22 (USSR)

ABSTRACT: If the necessity arises to build up combined triangulation- and polygoniometry nets with approximately the same accuracy, it is advisable, for the sake of the joint and rigorous equalization of such networks, to apply the method of intermediate observations with conditional equations. On this occasion error equations in the triangulation net and conditional equations in the polygonometric net are formed. These equations are reduced to the linear form, and the error equations (1), as well as the conditional equations (2) are obtained. In order to solve the equations (1) and (2) jointly and accurately, the auxiliary function (3) is written down and the correction (v), which makes a minimum of this function, is determined. A system of equations (4) is obtained which is solved, and the corrections to the approximated

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coordinates and the correlatives of the conditional equations are found. The corrections of direction (measured at the triangulation points) are obtained from (1), and those to the measured angles and sides of the polygoniometric tracts are obtained from the equations (5). The mean square of deviation of the unit of weight is calculated according to formula (6). - The method described is applied for the purpose of equalizing the network shown (fig 1). In part 2 the network shown (fig 2), which was equalized by Professor V.V.Danilov (Ref 2) by the method of conditional and intermediate observations is equalized by the method described by the present paper. There are 2 figures, 2 tables, and 1 reference, which is Soviet.

1. Mathematics

Card 2/2

KUPCHINOV, Ivan Iosifovich, dotsent; LEBEDEV, Sergey Malakhovich; PROTSKO, Dmitriy Vasil'yevich, starshiy prepodavatel'; PETRUKOVICH, Alekseyevich, zasluzhennyy deyatel' nauki i tekhniki UzSSR; ZUBRITSKIY, I.V., prof., retsenzent; CHERNYSHEV, M.A., retsenzent; BIRYUKOV, N.N., dotsent, retsenzent; SOLOMONOV, A.A., dotsent, retsenzent

[Geodesy; textbook for students at higher railroad transportation schools] Geodeziia; uchebnoe posobie dlia studentov vuzov zheleznodorozhnogo transporta. Pod obshchei red. A.A.Petrukovicha. Moskva, Vses.zaochnyi in-t inzhenerov zhel.-dor.transp., 1959. 365 p. (MIRA 14:1)

1. Zaveduyushchiy kafedroy geodezii Belorusskogo instituta inzhenerov zheleznodorozhnogo transporta (for Lebedev). 2. Zaveduyushchiy kafedroy "Put' i putevoye khozyaystvo" Belorusskogo instituta inzhenerov zheleznodorozhnogo transporta (for Petrukovich). 3. Zaveduyushchiy kafedroy "Put' i putevoye khozyaystvo" Vsesoyuznogo zaochnogo instituta inzhenerov zheleznodorozhnogo transporta (for Chernyshev).
(Surveying)

SOLOMONOV, A.A., kand.tekhn.nauk

Adjustment of theodolite traverses and networks based on fixed points. Geod. i kart. no. 11:39-46 N '60. (MIRA 13:12)
(Traverses (Surveying))

SOLOMONOV, A.A., dotsent, kand.tekhn.nauk

Estimating the number of conditional equations involved in subsidiary triangulation networks. Izv. vys. ucheb. zav.; geod. i aerof. no.2:47-56 '61. (MIRA 14:6)

1. Belorusskaya sel'skokhozyaystvennaya akademiya.
(Triangulation)

SOLOMOKOV, A.A., dotsent, kand.tekhn.nauk

Simultaneous adjustment of triangulation and traverses by the indirect measurement method. Izv. vys. ucheb. zav.; geod. i aerof. no.3:73-84 '61. (MIRA 14:10)

1. Belorusskaya sel'skokhozyaystvennaya akademiya.
(Triangulation)
(Traverses(Surveying))
(Errors, Theory of)

SOLOMONOV, A.A., dotsent, kand. tekhn. nauk; IVANOV, I.D., starshiy prepodavatel'

Adjusting geodetic nets by means of nodal points and polygons. Izv. vys. ucheb. zav.; geod. i aerof. no.3:33-40 '64. (MIRA 18:3)

1. Belorusskaya sel'skokhozyaystvennaya akademiya (for Solomonov).
2. Moskovskiy institut inzhenerov zemleustroystva (for Ivanov).

POMELOV, S.I., kand. tekhn. nauk, red.; SOLOMONOV, A.A., kand. tekhn. nauk, red.; TKACHEVA, A., red.

[Balancing the network of a geodesic base line and estimating its accuracy] Uravnoveshivanie i otsenka tochnosti setei geodezicheskogo obosnovaniia; sbornik nauchnykh rabot. Minsk, Urozhai, 1965. 166 p. (MIRA 18:9)

1. Gorki. Belaruskaya akademiya sel'skaye haspadarki.

PARAMONOV, Vladimir Fedorovich, kand. tekhn. nauk; SOLOMONOV, Aleksandr Ivanovich, shlifovshchik-novator; [illegible] N.I., red.; DUBASOVA, V.M., tekhn. red.

[Machining profile parts on surface-grinding machines] Obrabotka profil'nykh detalei na ploskoshlifoval'nykh stankakh. Kuibyshev, Kuibyshevskoe knizhnoe izd-vo, 1963. 73 p. (MIRA 16:9)

1. Srednevolzhskiy stankostroitel'nyy zavod (for Solomonov, Paramonov).

(Grinding and polishing)

SOLOMONOV, A.P. (Pushkino, Moskovskoy oblasti, ul. Chekhova, d. 11, kv. 74)

Terms of consolidation and the nature of the reconstruction of callus following operation for the elongation of the leg. Ortop., travm. i protez. 27 no. 1:44-48 Ja '66 (MIRA 19:1)

1. Iz Pushkinskoy gorodskoy bol'nitsy (glavnyy vrach - A.R. Kalina). Submitted June 7, 1965.

KULISH, Ye.D.; SOLOMONOV, A.Ya.

Boring horizontal connection boreholes from an inclined shaft at the Moscow Basin "Podzemgaz" plant. Podzem.gaz.ugl. no.1:46-51 '57. (MLRA 10:7)

1. Podmoskovnaya stantsiya "Podzemgaz."
(Moscow Basin--Boring)

ACCESSION NR: AT4008646 S/2945/63/000/015/0071/0074

AUTHOR: Solomonov, B. G.; Zakharova, L. B.

TITLE: Recognition of continuous functions (signals)

SOURCE: AN SSSR. Institut problem peredachi informatsii, Problemy* peredachi informatsii, no. 15, 1963. Sistemy* raspredeleniya informatsii. Opoznaniye obrazov, 71-74

TOPIC TAGS: continuous function, continuous image, optical image recognition, continuous optical image, continuous signal, continuous function recognition, signal identification device, signal comparison identification, weighting function determination, integration circuit, image recognition, perceptron

ABSTRACT: Two variants of continuous function identification methods are considered. In the first a certain set of functions is stored in the memory and compared with the unknown function. In the

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ACCESSION NR: AT4008646

where $\varphi(t)$ is an arbitrary weighting function chosen to produce a maximum difference between the numerical parameters c_k of the entire set of functions $a_k(t)$. The block diagrams of the two methods are described. Orig. art. has: 2 figures and 2 formulas.

ASSOCIATION: Institut problem peredachi informatsii AN SSSR (Institute of Information Transmission Problems, AN SSSR)

SUBMITTED: 00 DATE ACQ: 23Jan64 ENCL: 02

SUB CODE: CO, CP NO REF SOV: 005 OTHER: 000

Card 3/3

TAIROV, Ch.A.; SOLOMONOV, B.M.

Upper cretaceous and Paleocene stratigraphy of the Zagly area in the Caspian-Kuba region. Azerb.neft.khoz. 41 no.4:1-2 Ap '62. (MIRA 16:2)

(Caspian Sea region—Geology, Stratigraphic)

GUSEYNOV, G.A.; SOLOMONOV, B.M.; SHIRINOV, A.M.

Lithologic and reservoir properties of arenaceous silt in the Koun series of the Caspian Sea region. Azerb. neft. khoz. 41 no.11:4-6 N '62. (MIRA 16:2)
(Caspian Sea region—Silt)

SALAYEV, S.G.; RUSTAMOV, G.A.; GOLANKHOV, B.M.

Lithofacies characteristics and the oil potential of the Upper-Cretaceous and Paleogene-Miocene sediments of the Caspian tertiary monocline. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk i nefti no.2:5-13 '63. (MIRA 17:10)

SALAYEV, S.G.; GUSEYNOV, G.A.; SOLOMONOV, B.M.

Oil potential of the Koun series of the Caspian Tertiary monocline. Uch. zap. AGU. Ser. geol. - geog. nauk no.3:71-78 '63. (MIRA 17:11)

GUSEYNOV, G.A.; SOLOMONOV, B.M.

Special features of the geology and development of the Siazan' oil field. Neftepром. delo no.4:3-5 '63. (MIRA 17:8)

1. Neftepromyslovoye upravleniye "Siazan'neft'".

ALIYEV, S.G., GULIYEV, G.A., [illegible], B.M.

Further trends in the exploration of the Cenomanian horizon in the Caspian-Kura area. Neft. khoz. geol. i geofiz. no.7, 14-18 '63. (MIRA 17:10)

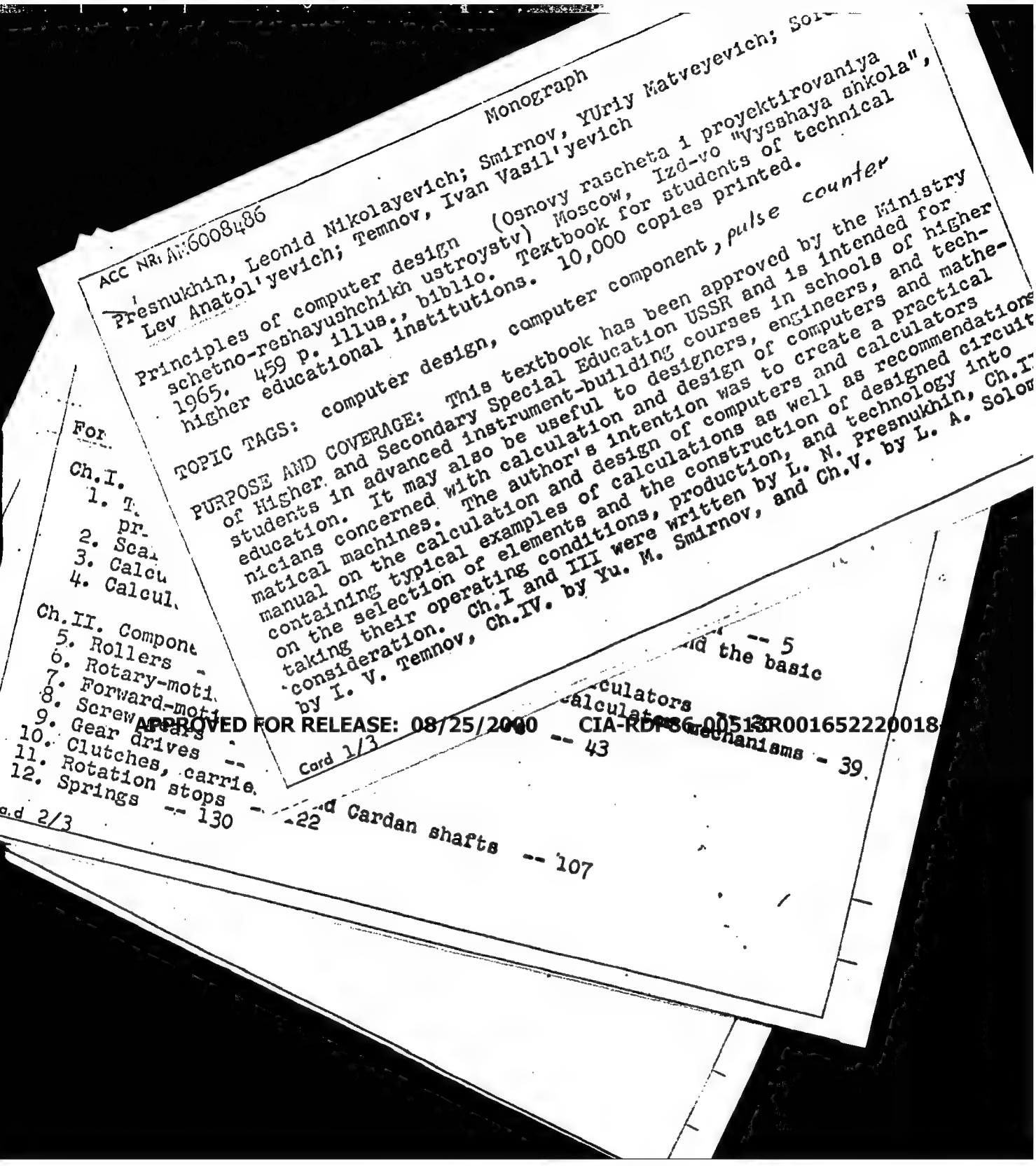
1. Institut geologii AN AzSSR i Neftepromyslovoye upravleniye "Glavneft'".

SALAYEV, S.G.; GUSEYNOV, G.A.; SOLOMONOV, B.M.; FUTKARADZE, A.L., spets. red.; MUSAYEVA, E.B., red.

[Geology and oil and gas potential of the Caspian ternary monocline] Geology and oil and gas potential of the Caspian ternary monocline] Geologiia i neftegazonosnost' Prikaspiiskoi tretichnoi monoklinali. Baku, Azerneshr, 1964. 116 p. (MIRA 17:12)

SALAYEV, S.G.; GUSEYNOV, G.A.; SOLOMONOV, B.M.

Tectonic characteristics of the Caspian Tertiary monocline in the light of new data. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.3:17-24 '65. (MIRA 18:9)



ACC NR: AM6008486 Monograph

Presnukhin, Leonid Nikolayevich; Smirnov, YUriy Matveyevich; Sol
Lev Anatol'yevich; Temnov, Ivan Vasil'yevich

Principles of computer design (Osnovy rascheta i proyektirovaniya schetno-reshayushchikh ustroystv) Moscow, Izd-vo "Vysshaya shkola", 1965. 459 p. illus., biblio. Textbook for students of technical higher educational institutions. 10,000 copies printed.

TOPIC TAGS: computer design, computer component, pulse counter

PURPOSE AND COVERAGE: This textbook has been approved by the Ministry of Higher and Secondary Special Education USSR and is intended for students in advanced instrument-building courses in schools of higher education. It may also be useful to designers, engineers, and technicians concerned with calculation and design of computers and mathematical machines. The author's intention was to create a practical manual on the calculation and design of computers and mathematical machines. The author's intention was to create a practical manual on the calculation and design of computers and calculators containing typical examples of calculations as well as recommendations on the selection of elements and the construction of designed circuits taking their operating conditions, production, and technology into consideration. Ch.I and III were written by L. N. Presnukhin, Ch.I by I. V. Temnov, Ch.IV. by Yu. M. Smirnov, and Ch.V. by L. A. Solov

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For

Card 2/3

ZOTOV, M. I., SOLOVYOV, V. A.

Headgear

Improving the assortment of kerchiefs.
Tekst. prom. 12, No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

ZOTOV, N.D.; SOLOMONOV, M.A.

How we increased the output of head scarfs. Tekst. prom. 18 no.2:58 F '58. (MIRA 13:3)

1.Zaveduyushchiy proizvodstvom Gorodkovskoy tkatsko-otdelochnoy fabriki (for Zotov). 2. Nachal'nik planovo-proizvodstvennogo otdela Gorodkovskoy tkatsko-otdelochnoy fabriki (for Solomonov).
(Textile fabrics)

UR/

ACC NR: AM6008486 Monograph

Presnukhin, Leonid Nikolayevich; Smirnov, YUriy Matveyevich; Solomonov, Lev Anatol'yevich; Temnov, Ivan Vasil'yevich

Principles of computer design (Osnovy rascheta i proyektirovaniya schetno-reshayushchikh ustroystv) Moscow, Izd-vo "Vysshaya shkola", 1965. 459 p. illus., biblio. Textbook for students of technical higher educational institutions. 10,000 copies printed.

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PURPOSE AND COVERAGE: This textbook has been approved by the Ministry of Higher and Secondary Special Education USSR and is intended for students in advanced instrument-building courses in schools of higher education. It may also be useful to designers, engineers, and technicians concerned with calculation and design of computers and mathematical machines. The author's intention was to create a practical manual on the calculation and design of computers and calculators containing typical examples of calculations as well as recommendations on the selection of elements and the construction of designed circuits, taking their operating conditions, production, and technology into consideration. Ch.I and III were written by L. N. Presnukhin, Ch.II by I. V. Temnov, Ch.IV. by Yu. M. Smirnov, and Ch.V. by L. A. Solomonov

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ACC NR: AM6008486

The general arrangement was supervised by L. N. Presnukhin. There are 36 references, all Soviet.

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ACC NR: AM6008486

AVAILABLE: Library of Congress

SUB CODE: 09/ SUBM DATE: 16Jun65/ ORIG REF: 036

Card 3/3

SOLOVIEV, M. A.

SOLOVIEV, M. A.

Teeth - Abnormities and Deformities

Removable dental prosthesis in lingual convergence of the upper teeth and microstomia; Stomatologiia no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1952 ~~1953~~, Uncl.

SOLOMONOV, M.A., kandidat meditsinskikh nauk

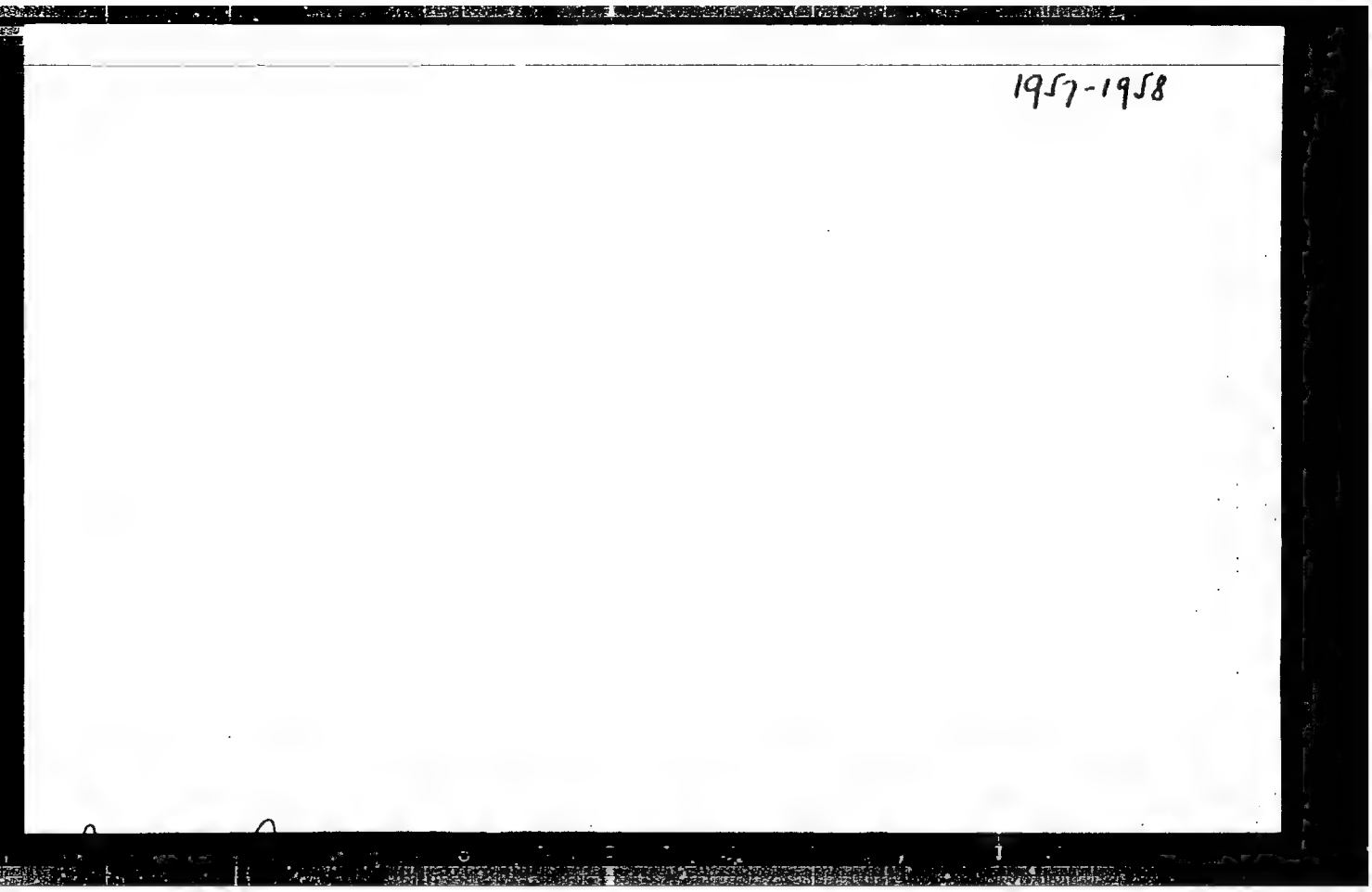
"Prosthesis for toothless jaws" by V.IU. Kurliandskii. Reviewed by M.A. Solomonov. Stomatologiia 35 no.6:60-61 N-D '56 (MLRA 10:4)
(DENTAL PROSTHESIS) (KURLIANDSKII, V.IU.)

SOLOMONOV, M. A., dotsent

Study of the pliability of an immobile mucous membrane in the edentulous upper jaw. Trudy KGMI no.2:174-181 '60. (MIRA 15:7)

1. Iz kafedry ortopedicheskoy stomatologii - zav. kafedroy dotsent M. A. Solomonov.

(MUCOUS MEMBRANE) (DENTAL PROSTHESIS)



SOLOMONOV, M.

General meeting of the section of Technical Sciences of the Academy of Sciences of the U.S.S.R. Izv.AN SSSR.Otd.tekh.nauk no.2:164-166 F '57. (MLRA 10:5)
(Technology)

SOLOMONOV, M. S.

24-4-33/34

AUTHOR: Solomonov, M. S.

TITLE: Commemorating H. Hertz. (Pamyati Genrikha Gertsa).

PERIODICAL: "Izv. Ak. Nauk, Otd. Tekh. Nauk" (Bulletin of the Ac. Sc., Technical Sciences Section), 1957, No.4, pp.174-176 (USSR).

ABSTRACT: To commemorate the 100th anniversary of the birth of H. Hertz the Soviet Ac. Sc. held a meeting on February 27, 1957 in which several speakers spoke about the life and the importance of the scientific achievements of this famous German physicist.

SUBMITTED: March 7, 1957.

AVAILABLE:

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AUTHOR: Solomonov, M. 24-7-27/28

TITLE: ~~Certain results~~ relating to long distance power transmission. (Nekotorye itogi peredachi elektroenergii na dal'nem rasstoyanii).

PERIODICAL: "Izvestiya Akademii Nauk", Otdeleniye Tekhnicheskikh Nauk" (Bulletin of the Ac.Sc., Technical Sciences Section), 1957, No.7, p.160 (U.S.S.R.)

ABSTRACT: Meetings were held at the Power Institute, Ac.Sc. imeni G. M. Krzhizhanovskiy (Energreticheskiy Institut AK.Nauk SSSR im. G. M. Krzhizhanovskiy) on April 10 to 13, 1957 devoted to acute problems of long distance power transmission. The meetings were attended by representatives of Soviet research establishments and also by guest delegates from China. There were two plenary sessions and in these the following papers were read:
"Preliminary results of the study of the operating regimes of the 400 kV power transmission of the Kuybyshev hydraulic power station" by S. A. Sovalov;
"Experience in the operation and testing of the relay protection of the power transmission line of the Kuybyshev hydraulic power station" by N. S. Chernobrovov;

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Certain results relating to long distance power transmission. (Cont.)

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"First operational experience with the 400 kV power transmission of the Kuybyshev hydraulic power station" by V. A. Vershkov;
"Results of investigations of internal over-voltages in the power transmission system Kuybyshev-Moscow and on the insulation levels of this transmission line in the case of an operating voltage of 500 kV" by A. A. Akopyan;
"Technical and economic indices of power transmission at 400 and 500 kV" by N. N. Sokolov.

Operation experience during one year with a single circuit of the Kuybyshev-Moscow transmission line and of four months operation of two circuits using the block unit scheme confirmed the correctness of the main assumptions on which the transmission line project was based. It was also established that owing to certain defects in the equipment and installation there were a number of disconnections due to failures. This is attributed to the fact that so far the Russian electrical industry has not mastered the production of such synchronous compensators as were scheduled by the project. Testing of the 400 kV power transmission system was carried out at the end of 1955 and during 1956

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Certain results relating to long distance power transmission. (Cont.)

24-7-27/28

with the participation of a number of establishments and useful results were obtained relating to the behaviour of the equipment, particularly under difficult conditions when operating near to the limit ratings. On the basis of the results of these tests the delegates at the meeting considered that the following should be done:

1) Non-excited generators at the end of the line can be applied for short durations as a reserve for "transverse" (parallel?) compensation;

2) Installation of tap changing transformers at the receiving sub-stations on the Kuybyshev-Moscow transmission line facilitates operation of the line and is considered absolutely necessary in transmission lines of this type;

3) Non-synchronous connection of hydraulic generators can be applied for rapid restoration of normal operation of the Kuybyshev-Moscow transmission line after failures, provided the limit permissible current peaks in the generators are not exceeded;

4) During the entire time there was not a single disconnection due to lightning or throwing off of arrestors due to atmospheric discharges and this indicates that the lightning strength of the transmission line is adequate.

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Certain results relating to long distance power transmission. (Cont.) 24-7-27/28

It was revealed during the conference that the comparisons made so far between the experimental and the calculated data on determining the limit of static stability of the Kuybyshev-Moscow transmission line is far from being complete. It is necessary to speed up this work; particularly, the results should be compared which were obtained in studying the transient phenomena on dynamic models with the actual test results obtained on the Kuybyshev-Moscow transmission line. It was established that it is economically advisable to increase the voltage to 500 kV provided the transmitted power is increased to 700 to 750 MW per circuit. The existence of a certain reserve in the line insulation provides the necessary assumption for improving the operating voltage of the transmission line. It is imperative to work out measures for limiting the internal over-voltages in the 400 to 500 kV transmission systems.

A number of papers were also read in sectional meetings. In the section on operating conditions and stability, standards were established for determining the stability of transmission lines and discussions took place on the

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Certain results relating to long distance power transmission. (Cont.)

24-7-27/28

problems of electric braking of generators as a means for improving the dynamic stability and on the influence of intermediate power systems and synchronous compensators on the throughput capacity of super-long a.c. transmission lines. It is necessary to speed up the testing of the effectiveness of electric braking under real conditions of operation. In the sectional meetings on over-voltages, insulation and corona, papers were read on the anticipated corona losses in the Kuybyshev-Moscow transmission line resulting from increasing the voltage to 500 kV and on the annual corona losses on the 400, 500 and 600 kV transmission lines. It was concluded at the meetings of this section that increase of the line voltage from 400 to 500 kV will bring about a five to sixfold increase of the annual corona losses. In the sectional meetings on relay protection and automation it was revealed that the fundamental protection and automatic line equipment intended for the 400 kV Kuybyshev-Moscow transmission line have passed their laboratory tests but they have not been adequately tested in the transmission line itself.

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(This is a full translation of the report).

24-7-28/28

AUTHOR: Solomonov, M.

TITLE: Conference on permanent magnets in the Technical Sciences Section. (Soveshchaniye v otdelenii tekhnicheskikh nauk po postoyannym magnitam).

PERIODICAL: "Izvestiya Akademii Nauk, Otdeleniye Tekhnicheskikh Nauk" (Bulletin of the Ac.Sc., Technical Sciences Section), 1957, No.7, pp.161-164 (U.S.S.R.)

ABSTRACT: On May 21-24, 1957 a conference on the theory and practice of permanent magnets was held which was sponsored jointly by the Institute of Automation and Telemechanics (Institut Avtomatiki i Telemekhaniki) and the Institute of Metallurgy imeni A. A. Baykov (Institut Metallurgii im. A.A. Baykova). Representatives of research and teaching establishments and of industrial organisations and plants were present, a total of 300 people. Thirty papers were submitted of which 28 were read. The conference was opened by the President of the Organisation Committee, A. N. Larionov, Corresponding Member of the Ac.Sc. In his opening speech Academician V. S. Kulebakin mentioned that the conference should consider it as its task to clarify the state and the main trends of the scientific and technical problems relating to the study of the nature of ferromagnetism

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Conference on permanent magnets in the Technical Sciences Section. (Cont.)

24-7-28/28

and the development of magnetically hard materials and their utilisation in various branches of engineering. A. S. Zaymovskiy read four review papers on materials for permanent magnets, both those used on a large scale and those with only special uses. He emphasized the necessity of developing a technology of manufacture of magnico magnets by means of directional crystallisation and also improvement of alnico alloys since, in analogy with magnico, it should be possible to increase 2.5 to threefold their magnetic properties by casting and directional crystallisation along an edge of a cube and subsequent texturing of the pseudo-monocrystalline casting. The speaker pointed out numerous deficiencies in the organisation of the manufacture of permanent magnets by Soviet industry and particularly the inadequate attention paid by the Ministry of Ferrous-Metallurgy to problems of manufacture of permanent magnets. Kazarnovskiy, L. Sh. dealt with the various groups of materials for permanent magnets. So far alloys of the system Fe-Ni-Al form the basic material for such magnets. The quality of such Soviet produced magnets has not improved since the war and

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Conference on permanent magnets in the Technical Sciences Section. (Cont.)

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the valid standard ГОСТ 4402-48 tolerates even lower quality indices than before the war. Zaymovskiy and Livshits have shown that Fe-Ni-Al alloys alloyed with copper have many technological advantages compared to such ternary alloys without the addition of copper. Kazarnovskiy also discussed alloys developed by other Soviet scientists and dealt with the technology of manufacture of cast magnets.

In the paper "On the problems of application of permanent magnets in electrical engineering", Corresponding Member of the Ac.Sc. A. N. Larionov mentioned that,for calculating the critical point of demagnetisation corresponding to the optimum utilisation of the material, data are necessary on the degree of convexity and on the coefficient of magnetic reversion, data which are not encompassed in standard specifications. Instability and non-uniformity of materials of permanent magnets produced in the Soviet Union is one of the causes of the low degree of utilisation of the material and the large size and weight of electrical machinery with permanent magnets. He pointed out that magnico type alloys with a specific energy of $(BH)_{max}$

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Conference on permanent magnets in the Technical Sciences Section. (Cont.) 24-7-28/28

below four million Gauss·Oersted did not ensure a high degree of utilisation of generators, particularly in the range of 30 to 100 kVA and above; the specific weight of such generators, including regulating apparatus, is over 1.5 times as high as the specific weight of generators with electromagnetic excitation. More attention should be paid to anisotropic magnico type alloys; these should have a high mechanical strength, permitting operation at circumferential speeds of 70 to 100 m/sec and ensure invariance of the magnetic properties at 300 to 400 C. He mentioned that experimental specimens of hysteresis motors of elevated frequencies of 2 W to 4 kW have been built using sheet vicalloy.

N. N. Shumilovskiy dealt with the fundamental problems of application of permanent magnets in the electrical instrument industry and clarified the general state and prospects of further development in this branch of engineering, pointing out that the general state of production of high quality stable, magnetically hard, materials is lagging behind in the Soviet Union.

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Conference on permanent magnets in the Technical Sciences Section. (Cont.) 24-7-28/28

the Institute for Precision Alloys relating to the ductility of alloys for permanent magnets.
In addition to the above mentioned general review papers, a number of papers were read on specific problems, e.g. "Modern conceptions on the nature of high coercitivity in magnetic alloys" by Ye. I. Kondorskiy; "Metallographic foundations of heat treatment of high coercive Fe-Ni-Al alloys" by B. G. Lifshits; "On the magnetic structure of high coercitivity alloys" by Ya. S. Shur; "Energy of permanent magnets" by K. N. Polivanov. F. N. Stepanov read the paper "Prospects of application of permanent magnets and fundamental requirements to be met by them"; I. I. Gorzhevskiy read the paper "Requirements to be met by the materials of rotors of hysteresis motors"; A.A.Shekalov read the paper "Investigation of the influence of alloying additions on the mechanical and magnetic properties of Fe-Ni-Al alloys"; Ye. G. Shramkov and A. B. Mitkevich read the paper "Stability of Fe-Ni-Al base permanent magnets and alloys"; Ya. S. Shur et alii read the paper "Improvement of the properties of high coercive materials by thermo-mechanical treatment" and L. M. Dovgalevskiy and

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SOLOMONOV, M

24-12-23/24

AUTHOR: Solomonov, M.

TITLE: Jubilee Session of the General Assembly of the Technical Sciences Division devoted to the Great October Revolution. (Yubileynaya sessiya obshchego sobraniya Otdeleniya Tekhnicheskikh Nauk, posvyashchennaya Velikoy Oktyabr'skoy Sotsialisticheskoy Revolyutsii).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.12, pp.96-99 (USSR)

ABSTRACT: This session was held on October 29-31, 1957. The opening address was given by Academician A. A. Blagonravov who pointed out a few achievements illustrating the successful activities of various research establishments. In a paper presented by Corresponding Member of the Ac.Sc. U.S.S.R. N. N. Kovalev, Academician of the Ukrainian SSR S.V.Serensen, N. I. Prigorovskiy and G. V. Uzhik the results were described of investigations of the strength of large size machines, powerful stamping presses and turbo-generators, of methods of measuring the static and dynamic forces in large power generation and technological equipment at various operating regimes, simulating on models of the stress state of components of complex shape and methods of measuring the stresses in models. The

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Jubilee Session of the General Assembly of the Technical Sciences Division devoted to the Great October Revolution.

increasing the frequency stability, miniaturising and increasing the service life and service reliability. Considerable successes are claimed in the design of amplifier klystrons achieved under the direction of S. A. Zusmonovskiy.
Doctor of Technical Sciences M. A. Gavrilov presented a paper devoted to the present state of the theory and of the technique of discreet telemechanics. He gave a general analysis of the state of the theory of the structure of the signals and described circuits which have been developed for contact and contactless (crystal) elements of a new instrument, the "discreet corrector" which can be included at any point of a channel for transmitting signals and is capable of correcting the distortions within given limits. He also dealt with specialised computers for analysis developed by the Institute of Automation and Telemechanics Ac.Sc. USSR (Institut Avtomatiki i Telemekhaniki AN SSSR) and computers for synthesis developed by the Laboratory of Wire Communication Problems Ac.Sc. USSR (Laboratoriya Problem Provodnoy Svyazi AN SSSR) and the structure of relay equipment.

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the Svirsk Hydraulic Power Station. Tests of this excitation system have shown that it ensures high speed forcing of the excitation and also fast de-excitation, which is necessary for ensuring stable operation of alternators feeding their output into long transmission lines; use of sealed single anode rectifiers results in a simple design and good operational reliability. Another very important problem, that of frequency regulation of the speed of asynchronous motors, was solved by the Institute of Electromechanics which developed a system of a compensated commutator generator with an electro-machine or ionic excitation; ionic excitation by means of thyratrons permits continuous changes in the frequency of the ac.current of the commutator generator within wide limits. Further efforts of this Institute are directed towards developing an ionic transducer which would permit direct control of the speed of asynchronous motors with short circuited rotors and also substitution of the metallic commutator by machines with electronic commutators so that the range of frequencies can be widened and a new solution obtained for the problem of

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and motor buses for short distances and also water transport. It is necessary to push faster with the construction of new railways so as to increase it to at least 3000 km per year.

Academician I. P. Bardin dealt with the problem of preparing charges for blast furnaces, reviewing the stages of preparation of the materials with the degree of development of the metallurgical production. He considered it of great importance to eliminate or reduce in the ores and fuels harmful admixtures, i.e. phosphorus, sulphur and arsenic. He outlined methods for perfecting the blast furnace process (not specified in adequate detail in this report). Of great importance is the development of new, more economical methods of ore treatment to obtain ores of suitable sizes. Particular attention should also be paid to beneficiation of coals for coking.

Academician A. A. Skochinskiy dealt with the problem of sudden ejections of coal and gas and methods of combatting such ejections used in the Soviet Union. He claimed that Soviet research work has clarified the nature

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and mechanism of sudden ejections of coal and gas and the developed methods of combatting these have reduced considerably such accidents in Soviet coal mines. Doctor of Technical Sciences A. Z. Yurovskiy dealt with the fundamental theoretical and technological principles of beneficiation of solid,mined fuels and he clarified the role of various scientific establishments of the Ac.Sc. USSR and of other research institutes working in the Soviet Union in this field. At the end of 1960 about 200 million tons of coal is to be subjected to beneficiation and, therefore, the quality indices of the individual beneficiation processes are considered of great importance. Particularly important is the beneficiation of coking coal so as to reduce the ash and sulphur contents of metallurgical coke. He considers that a complex solution of the beneficiation of coal should enable not only to eliminate but also to utilise the valuable mineral components contained in the coal and he pointed out the example of the possibility of utilisation of aluminium, germanium, gallium and

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The meeting passed a resolution considering it of great importance to develop further the theoretical and experimental investigations for producing circuits and systems of automated electric drives, equipment for generating a.c. and for frequency transformation, the study of the static and dynamic processes in such systems and the development of methods of using elevated frequencies. The research work aimed at developing and industrial mastering of semi-conductor rectifiers and high quality magnetic materials for reactors should also be intensified.

AVAILABLE: Library of Congress.

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SOLOMONOV, M.

24-58-3-35/38

AUTHOR: Solomonov,M.

TITLE: Problems of the Construction and Exploitation of Mining Enterprises. Scientific-Technical Conference at the Institute of Mining, Academy of Sciences USSR (Voprosy stroitel'stva i ekspluatatsii gornykh predpriyatiy. Nauchno-tekhnicheskoye soveshchaniye v Institute gornogo dela Akademii nauk SSSR)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 3, p 173 (USSR)

ABSTRACT: On November 20-21, 1957, a conference took place on the problems of the construction and exploitation dealing with the mineral deposits under complicated hydrological and geological engineering conditions. The conference was organised by the Institute of Mining together with the Central Administration of the Scientific-Technical Society; 320 delegates, nearly all representatives of the appropriate large enterprises, were present. The conferencewas opened by Academician L. D. Shevyakov. At the plenary meeting of the conference the following papers were presented: A. T. Bobryshev on "Hydrological conditions of the Yakovlev deposits of the Belgorod iron ore district of the Kursk Magnetic Anomaly (KMA) and the corresponding scheme of the lowering of the water level and

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Problems of the Construction and Exploitation of Mining Enterprises. Scientific-Technical Conference at the Institute of Mining, Academy of Sciences USSR.

draining undertakings"; M. I. Agoshkov on "Methods of opening workings and the systems of exploitation of the rich iron ores of the Belgorod district of the Kursk Magnetic Anomaly"; G. N. Man'kovskiy on "The tasks of scientific research in the field of construction and exploitation of mining enterprises of soaked deposits"; I. V. Popov on "The task of engineering geology in connection with the appraisal of conditions of opening and exploitation workings of deposits"; S. A. Krivorog on "Methods of draining of heavily water-soaked coal deposits and ways of their perfection"; H. F. Unkovskaya and M. N. Gusarov on "Mining works under conditions of water - soaked karst"; D. I. Malicvanov on "New equipment in shaft construction by special methods". Several papers were submitted in the conference sections: "On the introduction into practice of blasting timber technique in the Moscow Basin"; "On the experience of sinking main (entry) shafts under the complicated hydrological conditions of the Tula coal deposits"; "Exploitation of main shafts in the frozen quaternary coal deposits of Vorkuta". "On the influence of soaking upon the development procedure of the polymetallic ores of ?yanskoye deposit";

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Problems of the Construction and Exploitation of Mining Enterprises. Scientific-Technical Conference at the Institute of Mining, Academy of Sciences USSR.

"On the opencast workings of the Kursk Magnetic Anomaly Lebedinskoye deposit under complicated geological conditions"; "On drainage methods of opencast workings tracts of Mar'yevskoye and Aleksandrovskoye deposits in the Nikopol' manganese basin"; "Experience in the planning of drainage works in the opencast workings of waterlogged coal deposits" (example set by Ukrgiprouhakht); "On the experience of construction and opencast workings of Bashkirya"; "Prediction methods of engineering - geological conditions in opening and development procedure in mineral bearing tracts"; (based on the experience of KMA); "On vertical drainage under the conditions of shaft waters being dropped down to the karst-layers level" (exemplified by the Cheremkha coal-bearing tract); "On the draining operation of Iletskoye and Solovinskoye deposits of rock salt"; and others. The conference emphasized the necessity of the improvement of the existing organizations of hydrological and engineering-geological works, the furthering of rock pressure follows learning, the perfecting of development operations, full-

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Problems of the Construction and Exploitation of Mining Enterprises. Scientific-Technical Conference at the Institute of Mining, Academy of Sciences USSR.

size diameter shaft drilling, rock freezing, stopping of cracked rocks and lowering of the water level. Taking the complicated innate conditions of iron ore deposits of the Kursk Magnetic Anomaly into consideration, the conference stressed the purposefulness of the scientific-exploratory works of the Lebedinskiy open pit workings - now in reconstruction - to be carried through - to fix up stable angles of slopes (dip).

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1. Mining—Conference—USSR

Solomonov M.

24-58-3-36/38

AUTHOR: Solomonov, M.

TITLE: Elaboration of the Problem of Rock Pressure (K razrabotke problemy gornogo davleniya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 3, pp 173-174 (USSR)

ABSTRACT: A conference devoted to the phenomena of earth pressure in the rocks surrounding horizontal and vertical workings took place in December 1957 at the Mining Institute of the Academy of Sciences of the USSR. More than 100 representatives of 49 scientific-exploratory bodies, universities and mining enterprises took part in the conference. The conference brought to light problems of theoretical interest related to the distribution of stresses in the rocks, their displacement around the workings and an estimate of pressure upon the timbering of workings - all in line with contemporary notions of the theory of elasticity, plasticity and a creep - flowage. Of exceptional interest among the reports submitted were those which brought to light the role of anisotropy the problems of an assessment of the creep-flow of rocks and of the influence of the stopping operation upon displacement of

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Elaboration of the Problem of Rock Pressure.

rocks and exposure of the earth pressure in drifts. The following papers were presented: A. S. Kosmodamianskiy on "An estimate of stressed conditions in an anisotropic massif with the workings within it"; Yu. M. Liberman on "The influence of the time factor revealed by the pressure and displacement of rock in drifts under the influence of stopping operations"; K. V. Ruppeneyt "Pressure and displacement in drifts under the influence of stopping operations"; M. I. Rozovskiy "Methodology of laboratory definition of a creep-flow character of rocks and calculation of the flowage around vertical shafts"; T. S. Yerzhanov "Methodology of a laboratory estimate of the characteristic of flowage of rocks and computation of a creep-flowage around vertical main shafts"; T. A. Kryzhanovskaya "Investigation of the problem of rock pressure upon timbering of horizontal workings based on the theory of viscosity and plasticity of the creep-flow". Of the papers devoted to the investigation conducted under shaft conditions, the conference drew attention to measurements made in the railway tunnels and subways in the Nikopol' Manganese basin and the Donets basin and in the main shafts at great depths. B. N. Vinogradov on "Investigation into the phenomenon of earth pressure in tunnel construction"; A. G. Barlas on "An

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analytical examination of work (behaviour) of timbering in the weak surrounding rocks and measurements of deformations of timbering and the load in the horizontal workings of Nikopol' Manganese basin"; M. A. Komissarov on "The earth pressure around horizontal and inclined workings in connection with the stopping of coal seams under the conditions of the Donets basin"; A. M. Yanchur on "The investigation of the manifestation of earth pressure in vertical shafts of the Donets basin at great depths". The conference expressed its gratitude to the Czechoslovak scientist, Doctor-Engineer Rudol'f Kvapčil for his interesting communication on the theory of earth shocks.

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1. Geology--Conference--USSR

Solomonov, M.

24-58-3-37/38

AUTHOR: Solomonov, M.

TITLE: Role and Importance of Magnetic Elements. Some Findings of the All-Union Conference on Magnetic Elements in Automation, Telemechanics and Computer Engineering (Rol' i znacheniye magnitnykh elementov. Nekotoryye itogi vsesoyuznogo soveshchaniya po magnitnym elementam avtomatiki, telemekhaniki i vychislitel'noy tekhniki)

PERIODICAL: Izvestiya Akademii Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 3, pp 174-175 (USSR)

ABSTRACT: This conference was convened by the Institut avtomatiki i telemekhaniki Akademii nauk SSSR (Institute of Automatics and Telemechanics, Academy of Sciences USSR) and the Komissiya po magnitnym usilitelyam i beskontaktnym magnitnym elementam (Commission on Magnetic Amplifiers and Contactless Magnetic Devices). It was held on Nov. 20-30, 1957 with the participation of 800 delegates, representing 240 research and industrial organisations. In the plenary meetings the following papers were read: B. S. Sotskov on "Present state and problems of developing magnetic elements for automation and telemechanics"; K. M. Polivanov on "Dynamic characteristics of elements of electric circuits"; R. V. Telesnin "The influence of magnetic viscosity on the process of remagnetization of cores"; M. A.

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Role and Importance of Magnetic Elements. Some Findings of the All-Union Conference on Magnetic Elements in Automation, telemechanics and Computer Engineering.

Rozenblat on "Certain factors influencing the static and dynamic characteristics of toroidal cores"; E. T. Chernyshev, N. G. Chernycheva and E. N. Chedurina on "Present state of the problem of testing magnetic materials in dynamic regimes"; M. A. Rozenblat and O. A. Sedykh on "Fundamental principles of constructing (type) series of toroidal cores for magnetic amplifiers and contactless magnetic elements". A number of papers were read in two sections (magnetic amplifiers and discrete magnetic elements). Altogether 30 papers and communications were presented. These showed that in recent years successful results were obtained in the Soviet Union in the field of theory, development and application of various types of magnetic elements to automation, telemechanization and computer engineering. Application of magnetic elements brings about a considerable improvement in reliability and simplifies the design and operation of equipment. Depending on the type of the apparatus, use of static magnetic elements instead of electronic tubes, relays, amplidynes,

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Role and Importance of Magnetic Elements. Some Findings of the All-Union Conference on Magnetic Elements in Automation, Telemechanics and Computer Engineering.

etc. results in an increase in efficiency, reduction of dimensions, increased speed of response, a reduced power consumption, an increase in sensitivity and a reduction in the costs of apparatus and various other advantages. Simultaneous utilization of magnetic amplifiers and semiconductors will enable the solution of complicated technical problems and opens up wide prospects for further improvement of apparatus used in automation, remote control, computer and communication engineering.

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1. Telemechanics and Computer Engineers--Conference--USSR

24-58-3-38/38

AUTHOR: Solomonov, M.

TITLE: Conference on Shaping and Treatment of Heat-resistant Materials (Soveshchaniye po obrabotke zharoprochnykh materialov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 3, pp 175-176 (USSR)

ABSTRACT: Institut mashinovedeniya and Komissiya po tekhnologii mashinostroyeniya Ak.nauk SSSR (The Institute of Mechanical Engineering and the Commission on Engineering Technology, Academy of Sciences USSR), convened a conference held December 18-21, 1957. Over 300 delegates representing research establishments, design organizations and higher teaching establishments from various parts of the Soviet Union participated.
In the plenary meeting the following papers were read: "Properties of heat-resistant alloys", by I. I. Kornilov and "The role of heat-resistant materials and the demands to be made by such materials in steam and gas turbine construction" by V. V. Uvarov. The main work was carried out in sectional meetings where over 35 papers were read.
In the section on casting processes the following papers were read: "Crystallization and structure of ingots of high

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Conference on Shaping and Treatment of Heat-resistant Materials.

temperature austenitic steels" (A.A.Popov, V.A.Mirmel'shteyn); "Improving the heat resistance of iron-nickel base heat resisting alloys" (A.S. Stroyev and E.L. Zarubina); "Low stability stainless ageing steels of the transient austenitic class and their heat treatment" (V.V. Sochkov); "Smelting of heat-resistant alloys of the type ZhS and problems of utilising cut-offs, etc." (K. Ya. Shpuit); "On new methods of studying the microstructure and the properties of heat-resistant alloys at elevated temperatures" (M. G. Loginskiy); "Influence of supersonics on the properties of alloys" (G.I.Pogodin-Alekseyev and V.V. Zaboleyev-Popov); "Cast gas turbine runner blades " (F. V. Aksenov); "Features of precision (lost wax) casting of components made of heat-resistant alloys"(B. S. Kurchman).

At the section on shaping by applying pressure the following papers were read: "Thermomechanical regime of shaping of high melting point heat-resistant molybdenum and chromium base alloys" (N.I. Kornayev, A.G. Shubarev, L.E. Pevzner); "Methods of mechanical work hardening of components of heat-resistant alloys"(I.V. Kudryavtsev, B.I. Aleksandrov); "Stamping and drawing of components made of heat resistant sheet metal, using cooling to a very low temperature" (V. N. Revinov);

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Conference on Shaping and Treatment of Heat-resistant Materials.

"Upsetting of standards made of heat-resistant steels" (I. S. Petrov); "Producing accurate blanks of steel blades of compressors by the deformation method" (M.Ya. Kuleshov); "Producing blanks of turbine blades of heat-resistant alloys with minimum tolerance "along the stylus" (E.M. Eyfir); "Features of hot stamping of titanium alloys" (L.A.Nikol'skiy). In the section on welding processes the following papers were read: "Welding of power generation components made of austenitic heat-resistant steel" (K.V. Lyubovskiy); "Welding of temperature resistant steels for high parameter power generation equipment" (L.M. Yarovinskiy); "Welding of heat resistant steels and alloys" (M.A. Lyushkov); "Automatic welding of high temperature alloys" (B.I. Medovar); "Arc welding in a protective gas medium of heat-resistant alloys" (B.M. Pronina); "Welding of components of turbines made of heat-resistant alloys" (G.A. Nikolayev); "Tendency to forming hot cracks of the metal-weld joint in manual and automatic arc welding of austenitic steel and nickel alloys" (V.S. Sedykh); "Argon-arc welding of titanium components" (D.A. Polyakov); "Spot and "roller" (seam) welding of titanium alloy components" (P.L. Chulochnikov).

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In the section on machining the following papers were read: "Basic trends and results of investigations on high efficiency machining of components made of heat resistant alloys" (A. I. Isayev); "Investigation of the machinability of deformed heat-resistant alloys"(V.A. Krivoukhov); "Machinability of heat-resistant steels and alloys in turning, milling and drilling with carbide tipped tools" (N.I. Reznikov); "Influence of various factors on the machinabil ty of heat-resistant alloys" (K. F. Romanov), "Machinability of stainless steels" (S.S. Mozhayev); "Machining of titanium alloys" (A.D. Vershinskaya); "Broaching of heat-resistant alloys" (F.N.Pronkin); "Influence of certain factors on the dimensional stability of the cutting tool in turning the heat-resistant alloy EI-617" (A.S. Kurochkin); "Influence of the machining on the strength properties of heat-resistant alloys" (K.F.Romanov, N.G. Grinchenko); "Temperature field in the components and tools in machining heat-resistant alloys in steels" (A.N. Reznikov); "Grindability of heat-resistant alloys". (B.D. Sileverstov).

The papers and communications by delegates from a number of works have shown that a large number of heat-resistant alloys have been developed which have useful properties from

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the engineering point of view but the shaping of these alloys causes considerable difficulty. Due to the low ductility of heat-resistant alloys, the problem of searching for the most favourable thermomechanical regimes is still very acute. Much successful work has been carried out in the Soviet Union on welding austenitic heat-resistant alloys. Electrodes have been developed for welding steels at 600-650°C. Welding is being applied to steam pipings and fittings, high pressure cylinders of steam turbines of very high ratings, rotors and cylinders of gas turbines, etc. Numerous phenomena have been successfully studied which play an important role in obtaining faultless welds, automatic welding has been studied of certain elements of structures of large cross-sections, ensuring the formation of a predetermined quantity of the ferritic phase. The Institut elektrosvarki im. akademika Ye. O.Patona (Electric Welding Institute im. Ye.O. Paton) has carried out a considerable amount of work on automation of welding of heat-resistant austenitic steels and nickel base alloys which showed that, in addition to welding under a flux, welding in a CO_2 atmosphere can also be usefully applied. The

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work of NIAT on welding of steels EI-602 and EI-703 and the technology of manufacturing welded structures from thin sheet steels of these grades was also mentioned. VIM has mastered the technology of welding and shaping by pressure of various heat resistant alloys, including high melting point alloys. A number of works on improving the study of formation of hot cracks during welding and also on investigating the austenitic and other weld joints are being carried out at the Institut metallurgii im. A. A. Baykov AN SSSR (Institute of Metallurgy, im. A. A. Baykov, Academy of Sciences USSR). Investigations were carried out on welding austenitic and martensitic steels and the technology of welding turbine assemblies has been mastered at the MVTU im Bauman, whilst LPI im Kalinin has investigated the welding of austenitic steels and components of turbines. Some deficiencies in the work of individual undertakings and research institutes were criticised and methods of improving the shaping and treatment of heat resistant alloys were outlined.

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1. Mechanical engineering--Conference--USSR

AUTHOR: Solomonov, M.S. SOV/24-58-4-35/39

TITLE: Problem of Combined Utilisation of Fuel in the National Economy for Generating Power and for Technological Purposes (Problema kompleksnogo energotekhnologicheskogo ispol'zovaniya topliva v narodnom khozyaystve) Conference of Power Research Establishments of the Ac.Sc. USSR and of the Individual Soviet Republics (Soveshchaniye energeticheskikh uchrezhdeniy Akademii nauk SSSR i akademiy nauk soyuznykh respublik)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 151 - 152 (USSR)

ABSTRACT: The conference was held at Energeticheskiy institut im. G.M. Krzhizhanovskogo (The Power Institute im. G.M. Krzhizhanovskiy) in December, 1957. The following presented papers on the results achieved in 1957 and on the prospects for 1958: Z.F. Chukhanov (ENIN SSSR), I.A. Yavorskiy (Zapadno-Sibirskiy filial AN SSSR - West Siberian Branch of the Ac.Sc.USSR), I.P. Basina (Institut energetiki AN Kazakhskoy SSR - Power Institute of the Ac.Sc. Kazakh SSR), P.I. Lavrov (Institut teploenergetiki AN USSR - Institute of Thermal Power of the Ukrainian SSR),

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N.F. Rysakov (Ural'skiy politekhnicheskiy institut - Ural Polytechnic Institute), Yu.B. Voronkin (Institut energetiki AN BSSR - Power Institute of the Ac.Sc. of Belorussian SSR), I.M. Naydich (Akademiya nauk Kirgizskoy SSR - Ac.Sc. of the Kirgizskaya SSR), V.Ya. Bojars (Institut khimii AN Latviyskoy SSR - Institute of Chemistry of the Ac.Sc. Latvian SSR), M.Ya. Gubergriu (Institut khimii AN Estonskoy SSR - Institute of Chemistry of the Ac.Sc.Estonian SSR), G.P. Indrikeon (AN Latviyskoy SSR - Ac.Sc. of the Latvian SSR), L.E. Bayk (Institut energetiki AN Estonskoy SSR - Power Institute of the Ac.Sc. Estonian SSR).

In the Power Institute of the Ac.Sc.USSR, the process of thermal decomposition of Kuznetsk coal was investigated on periodically operating equipment. The process was investigated of decomposition of peat on a test rig intended for studying fast processes which take place within reaction times of 0.05 to 0.4 sec. The influence was studied of oxygen additions in a gaseous heat carrier

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on the process of decomposition under the given conditions. The processes of heat and mass exchange in the power-technological utilisation of fuel was investigated theoretically and experimentally. Also, the process was investigated of thermal processing of milling peat by means of a solid heat carrier in a larger installation. The processes were also investigated of movement of granular and pulverised material and gas in the feeder-shutters of equipment for power-technological utilisation of these fuels.
At the Institute of Thermal Power of the Ac.Sc.Ukrainian SSR the use of heavy tars in simple power-technological equipment was investigated. Furthermore, the products of thermal decomposition of Alexandria brown coals were studied.
In the Power Institute of the Ac.Sc. of Belorussian SSR an analytical theory was evolved of the non-steady state molecular heat and mass transfer as applied to processes of drying, phase and chemical transformations. A large

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laboratory set-up was built for drying milling peat in a fluidised layer. Technical-economic indices were determined of power-technological utilisation of peat and of transportation of the gas generated during the process to distances of 50-300 km. In the Institute for Power and Water Economy of the Ac.Sc. Kirgiz SSR, a technico-economic investigation was carried out on the power-technological utilisation of coals from Kirgizia and Southern Kazakhstan within the system of power supply of the town, Frunze. The thermal processing of Karakachinskiy brown coal was investigated in the temperature range 200 - 1 000 °C for various heating speeds and particle dimensions. Furthermore, the chemical, physico-chemical and power characteristics for local coals as well as their thermal stability in the temperature range 0 - 1 000 °C were investigated. In the Power Institute of the Ac.Sc. Estonian SSR, general experience was gained on thermal processing of shale by

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means of a solid heat carrier on equipment produced by the "Il'marine" Works. New schemes were developed for complex utilisation of shale. In the Institute of Chemistry of the Ac.Sc. Estonian SSR, the thermal processing was studied of an Estonian shale by means of a solid heat carrier in the temperature range 150 to 800 °C. Schemes of complex chemical processing of light fractions of shale tar into lubricating oils, detergents, motor fuels, etc. were developed. Furthermore, the hydrocarbon part of shale gas was studied.
In the Institute of Chemistry of the Ac.Sc. Latvian SSR, high-speed "bertination" was studied in the temperature range 250 - 520 °C.
In the Institute of Power and Electrical Engineering of the Ac.Sc. Latvian SSR, dehydration of raw peat was studied on an experimental test rig and also the kinetics and the dynamics of high-temperature drying of lowland

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raw peat.
In the Power Institute of the Ac.Sc.Kazakhskaya SSR, smelting of non-ferrous metals on an experimental cyclone installation was investigated.
At the Balkhashskiy medeplavil'nyy zavod (Balkhash Copper Smelting Works), an installation was built for processing sulphide copper concentrates with an output of 100 t/day. The construction has begun of cyclone-type equipment at the Ust'-Kamenogorsk Combine for extracting lead and zinc from polymetallic raw materials.
The Sakhalinskiy Complex Institute of the Ac.Sc.USSR investigated the high-speed thermal decomposition of gaseous coal and carried out experiments on elimination of dust from tars by separation according to the specific weight after breaking up the emulsion structure.
In the Transport-Power Institute of the Western Siberian Branch of the Ac.Sc.USSR, the thermal decomposition was studied of ten grades of coal from Siberia in the case of

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heating and also "bertination" of four grades of coal in a fluidised layer. The presented papers led to the conclusion that the range of problems investigated during 1957 was extended considerably and that the standard of the investigations was higher. However, the efforts are still considered inadequate and some establishments (IOKh, ION AN SSSR, Institut torfa AN BSSR - Institute of Peat of the Ac.Sc. Belorussian SSR) do not participate in the work. Investigations are lagging behind on pyrolysis of vapour-gas mixture and of heavy tars, dust elimination, development of methods of processing tars, etc. Research work on more complex power-technological schemes is not proceeding fast enough and the laboratory space, equipment and personnel allocated for this work are inadequate. A number of papers were read on intensification of the processes of combustion and development of effective methods

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of combustion of fuels and plans in this field for 1958. The following presented papers on these subjects: M.B. Ravich (ENIN AN SSSR), B.D. Kaunel'son (TsKTI), Kh.I. Kolodtsev (VTI), I.A. Yavorskiy (Zapadno-Sibirskiy filial AN SSSR - Western Siberian Branch of the Ac.Sc. USSR), P.P. Spirin (Ural'skiy filial AN SSSR - Ural Branch of the Ac.Sc.USSR), S.S. Zabrodskiy (Power Institute of the Ac.Sc. Belorussian SSR), I.P. Basina (Power Institute of the Ac.Sc. Uzbekskaya SSR), B.A. Upit (Institut energetiki i elektrotekhniki AN Latviyskoy SSR - Institute of Power and Electrical Engineering of the Ac.Sc. Latvian SSR), A.P. Chirkin (Khar'kovskiy institut inzhenerov Zh-d. transporta - Khar'kov Railway Transport and Engineers' Institute).
Investigations were mentioned on the combustion of solid fuel in a furnace with a refractory attachment and liquid slag removal, development of powerful gas burners and development of new simplified methods of thermal

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calculations. This work was carried out in the Power Institute of the Ac.Sc.USSR. The publication is scheduled of the monograph of L.N. Khitrin ("Physics of Combustion and Explosion").
In the Western Siberian Branch of the Ac.Sc. USSR, investigations were carried out relating to the establishment of a specific surface of a reaction zone and reaction characteristics of coal and semicoke. Work was also reported which was carried out by other institutes represented at the conference. The participants of the conference considered it particularly important to extend investigations on effective methods of utilisation of gaseous and liquid fuel, extension of the work on improving the economy of utilisation of fuel in industrial power-generation equipment. Pilot plant is available in the USSR based on more recent methods of organisation of processes of thermal decomposition of fuel. This includes equipment for a layered process of preparation of the combustion of

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fuel, equipment for thermal processing of fine-grain shale, etc. The results achieved with such pilot plant equipment were reported by B.I. Tyagunov (ENIN AN SSSR), A.M. Nikolayev (ENIN AN SSSR) and P.I. Lavrov (Institut teploenergetiki AN USSR -- Institute of Thermal Power of the Ac.Sc. Ukrainian SSR). In 1957, pilot plant equipment for thermal processing of shale fines by means of a solid heat carrier, operated jointly by the Power Institute of the Ac.Sc.USSR, the Kiviyli Combine and the Ac.Sc. of the Estonian SSR, worked satisfactorily to a stable regime for a period of ten days without any interruption. A practical solution was obtained for the problem of purifying a vapour-gas mixture of dust and a satisfactory system of cyclone cleaning was evolved. Positive results were obtained in tests with an experimental electric filter and on the basis of this, electric filters were designed to cope with the entire output of the installation. Liquid cleaning was carried out and the possibility was